

Please amend claims 44, 46, 48, 52, 53, 55, 59, 62, and 64 as follows:

Please cancel claims 45, 47, 51, 54, 58, and 63 without prejudice or disclaimer.

Please add new claims 67-69 as follows:

Listing of Claims:

1-43. (Canceled)

44. (Currently Amended) A method for ~~identifying~~ targeting a drug ~~that binds at a preselected target site on a biological molecule~~ to a specific selected protein,
wherein the specific selected protein is a member of a homologous protein series selected from
the group consisting of an ion channel and a membrane receptor, said method comprising:
~~providing said preselected target site on a biological target molecule, said~~
~~preselected target site having a chemically reactive group;~~
~~contacting said biological target molecule with a drug linked to an anchoring~~
~~moiety specific for said chemically reactive group; and~~
~~identifying said drug linked to said anchoring moiety.~~
contacting said specific selected protein with a compound having the formula

A-L-D

wherein:

A is an anchoring moiety that binds selectively, either covalently or
electrostatically, to a first binding site on said specific selected protein;

L is a linking group; and

D is a compound or drug that binds to a second binding site on said specific
selected protein, wherein said first binding site and said second binding site are distinct.

45. (Canceled)

46. (Currently Amended) The method in accordance with claim 44, wherein
said drug is a member of the group of small organic molecules consisting of ~~a peptide, a~~
~~peptoid, a random bio-oligomer,~~ a benzodiazepine, a hydantoin, ~~a dipeptide, a vinylous~~

4 ~~polypeptide, a nonpeptidal peptidomimetic, an oligocarbamate, a peptidyl phosphonate, a~~
5 ~~nucleic acid, an antibody,~~ an isoprenoid, a thiazolidinone, a metathiazanone, a pyrrolidine, a
6 morpholino compound, a cyclopentane carboxylic acid, phenylalkylamines, dihydropyridines, an
7 antineoplastic agent and a local anesthetic.

1 47. (Canceled)

1 48. (Currently Amended) The method in accordance with claim 44, wherein
2 said specific selected protein is a member selected from the group consisting of a β -adrenergic
3 receptor, a calcium channel, a sodium channel, a potassium channel, a membrane transporter[s]
4 and a membrane receptor[s].

1 49. (Original) The method in accordance with claim 44, wherein said
2 anchoring moiety is a member selected from the group consisting of a sulfhydryl-reactive group,
3 an alkylating agent and an acylating agent.

1 50. (Original) The method in accordance with claim 49, wherein said
2 anchoring moiety is a member selected from the group consisting of a methanethiosulfonyl
3 group, a dithiopyridyl group, a reactive disulfide, an α -halo ketone, an α -diazo ketone, an
4 activated ester, a pentafluorophenyl ester, and an anhydride.

1 51. (Canceled)

1 52. (Currently Amended) A method for identifying a compound of formula:

2 A-L-D

3 ~~drug that binds at a preselected target site on a biological molecule~~ a specific
4 selected protein, and wherein the specific selected protein is a member of a homologous protein
5 series selected from the group consisting of an ion channel and a membrane receptor, said
6 method comprising:

(a) providing a ~~biological target molecule~~ specific selected protein that comprises a ~~chemically reactive group~~ first binding site and a second binding site on said specific selected protein;

(b) ~~reacting~~ contacting said ~~biological target molecule~~ specific selected protein, with a compound, said compound comprising (1) A, wherein A is an anchoring moiety and (2) L, wherein L is a linking group, wherein said anchoring moiety ~~reacts with said chemically reactive group of said target molecule to form a covalent bond~~ binds specifically either covalently or electrostatically as a ligand to said first binding site on said specific selected protein, thereby resulting in said anchoring moiety being attached to said ~~target specific selected protein molecule through a covalent bond;~~

(c) combining said ~~target molecule~~ specific selected protein from step (b) with one or more members of a library of drugs that are capable of covalently binding to said linking group, wherein at least one member of said library binds to a second binding site on said specific selected protein and forms a covalent bond with said linking group to form a ~~target molecule~~ specific selected protein conjugated to A-L-D, wherein D is at least one member of said library forming said covalent bond; and

(d) identifying said drug, D, that forms a covalent bond with said linking group.

53. (Currently Amended) The method in accordance with claim 52, wherein said drug is a member of the group consisting of ~~a peptide, a peptoid, a random bio-oligomer, a benzodiazepine, a hydantoin, a dipeptide, a vinyllogous polypeptide, a nonpeptidal peptidomimetic, an oligocarbamate, a peptidyl phosphonate, a nucleic acid, an antibody, an isoprenoid, a thiazolidinone, a metathiazanone, a pyrrolidine, a morpholino compound, a cyclopentane carboxylic acid, phenylalkylamines, dihydropyridines, an antineoplastic agent and a local anesthetic.~~

54. (Canceled)

Page 5 of 17

15 L is a linking group; and
16 D is a drug that binds **specifically** to a second **target** binding site on said
17 specific selected protein, thereby identifying said drug.

1 60. (Original) The method in accordance with claim 59, wherein A is a
2 member of a combinatorial library of compounds.

1 61. (Original) The method in accordance with claim 59, wherein D is a
2 member of a combinatorial library of compounds.

1 62. (Currently Amended) The method in accordance with claim 59, wherein
2 said drug is a member of the group of small organic molecules consisting of ~~a peptide, a~~
3 ~~peptoid, a random bio-oligomer,~~ a benzodiazepine, a hydantoin, ~~a dipeptide, a vinylogous~~
4 ~~polypeptide, a nonpeptidal peptidomimetic, an oligocarbamate, a peptidyl phosphonate, a~~
5 ~~nucleic acid, an antibody,~~ an isoprenoid, a thiazolidinone, a metathiazanone, a pyrrolidine, a
6 morpholino compound, cyclopentane carboxylic acid, phenylalkylamines, dihydropyridines, an
7 antineoplastic agent and a local anesthetic.

1 63. (Canceled)

1 64. (Currently Amended) The method in accordance with claim 59, wherein
2 said specific selected protein is a member selected from the group consisting of a β -adrenergic
3 receptor, a calcium channel, a sodium channel, a potassium channel, a membrane transporter[s]
4 and a membrane receptor[s].

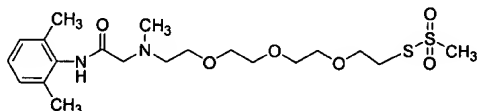
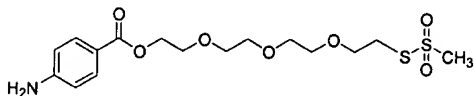
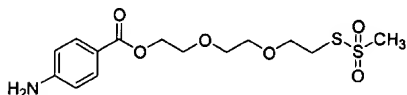
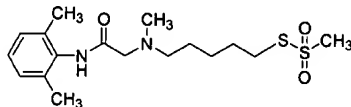
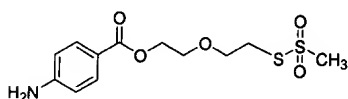
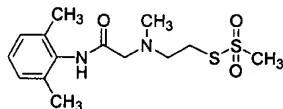
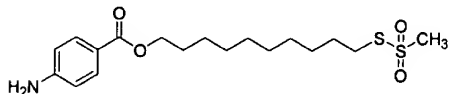
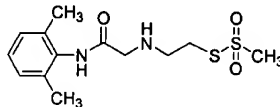
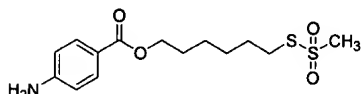
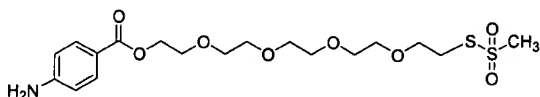
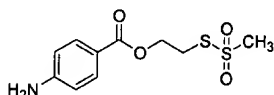
1 65. (Original) The method in accordance with claim 59, wherein said
2 anchoring moiety is a member selected from the group consisting of a sulfhydryl-reactive group,
3 an alkylating agent and an acylating agent.

1 66. (Previously Presented) The method in accordance with claim 65, wherein
2 said anchoring moiety is a member selected from the group consisting of a methanethiosulfonyl

- 3 group, a dithiopyridyl group, a reactive disulfide, an α -halo ketone, an α -diazo ketone, an
4 activated ester, a pentafluorophenyl ester, and an anhydride.

1 67. (New) A method of claim 44, wherein D is a drug that binds non-
2 specifically for members of a homologous protein series.

1 68. (New) A method of claim 44, wherein the compound of formula A-L-D is
2 selected from the group consisting of:



Page 8 of 17